Chapter 5

Federal Agency Comments on the 1997 Draft EIR/EIS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

FEB 17 1998

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WATER SUPPLY IMPROVEMENTS

Mr. Cecil Lesley
North-Central California Area Office
Bureau of Reclamation
7794 Folsom Dam road
Folsom, CA. 95630

Dear Mr. Lesley:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the project entitled **East Bay Municipal Utility District Supplemental Water Supply Project.** Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

East Bay Municipal Utility District (EBMUD) currently holds a contract with the Bureau of Reclamation (Reclamation) for delivery of up to 150,000 acre-feet per year from the American River through the existing Folsom South Canal. The EIS describes the environmental effects of taking delivery of water under EBMUD's water supply contract. EBMUD's project objectives are to obtain a supplemental water supply to assist in meeting its drought needs, reducing customer deficiencies during extended droughts, providing system reliability; and to allow EBMUD to make use of its existing contract with Reclamation for delivery of water from the American River.

Two alternatives are evaluated in detail. The first alternative is an EBMUD-only project that provides water deliveries from the American River via the Folsom South Canal to a new pipeline connection between the Folsom South Canal in south Sacramento County and EBMUD's Mokelumne Aqueducts in San Joaquin County. Alternate pipeline connection locations and alignments are evaluated.

The second alternative involves a joint project between EBMUD, the City of Sacramento, and the County of Sacramento. Under this alternative, water for EBMUD and the county would be delivered to a new intake location on the American River near its confluence with the Sacramento River. Water for the City would be diverted under existing entitlements through an expansion of existing diversion and treatment facilities on the American and Sacramento Rivers. A new pipeline would be constructed to convey the water to the City's E.A. Fairbairn Water Treatment Plant and to a point on the Folsom South Canal. Water for EBMUD would then be conveyed through the Folsom South Canal to its terminus where a new pipeline would be constructed to

convey the water to EBMUD's Mokelumne Aqueduct.

EPA acknowledges and commends the extensive planning efforts of EBMUD to ensure a safe and reliable water supply. We support the multi-faceted approach outlined in the Water Supply Management Program of water supply improvements, lower Mokelumne River management, water reclamation, water conservation, and Mokelumne Aqueduct security. The aggressive water conservation and reclamation actions are especially appreciated. EPA strongly encourages water conservation, water pricing strategies, water reclamation, and other demand reduction measures as means to achieving additional water supply.

We recognize that the proposed project addresses only EBMUD's water supply improvement goals and is only part of the extensive planning process. Nevertheless, we object to the narrow scope of alternatives evaluated in detail for water supply improvement and the restrictive alternative screening criteria utilized in the Alternative Screening Report (Appendix B). These criteria, such as allowing EBMUD to make use of its existing American River water supply contract, inherently limit alternatives that satisfy all the criteria to those alternatives with diversions from the American River. This narrow scope is not warranted given the broad purpose of providing a supplemental water supply that is not tied to EBMUD's existing Mokelumne River water supply.

EPA understands EBMUD's desire to obtain water of the highest water quality in order to minimize the need for additional treatment and to ensure current and future drinking water standards are met. EPA's position regarding source water quality is to support the use of water with the best water quality when all other considerations are equal. However, consideration of current and future drinking water regulations should not dictate use of the highest quality water at the expense of other beneficial uses. We note that other utilities successfully treat lower quality water, such as Sacramento River Delta (Delta) water, to meet public health goals. Thus, given the significant adverse cumulative impacts of additional American River diversions (e.g., Chapter 5. Fisheries), EBMUD must clearly demonstrate that high quality water, such as American River water, is essential for meeting the health protective drinking water standards and the use of other water sources is not feasible.

A number of alternatives and measures, other than American River diversions, are available which could meet the project objectives of obtaining a supplemental water supply to assist in meeting drought needs, reducing customer deficiencies during extended droughts, and providing system reliability. Examples are water transfers, conjunctive use based on diversions closer to Freeport, more aggressive water pricing, and other downstream diversion points, such as the Delta. We urge Reclamation and EBMUD to evaluate in detail a much wider range of alternatives that encompass water management measures and water supply sources other than American River water.

EPA is significantly concerned with the potential adverse cumulative impacts of the proposed new water supply diversions from the American River. Moreover,

commitment of additional water supplies from the American River can have the effect of reducing flexibility to operate the Central Valley Project system for the benefit of fisheries. Flow and temperature objectives on the lower American River are of critical concern and are often not met. Further, as recognized by Central Valley Project Improvement Act programs and CALFED, restoration of the Sacramento/San Joaquin Bay-Delta ecosystem downstream of the proposed project will require improvements in the magnitude and timing of flows. Fisheries in the American River and Sacramento/San Joaquin Bay-Delta systems are already highly stressed. Even slight changes could result in significant adverse impacts. If a diversion from the American River is deemed necessary, we strongly urge selection of diversion points on the Sacramento River below the confluence with the American River or as far downstream on the American River as feasible. Furthermore, we firmly believe that future project actions should help provide optimum rather then minimum flows and conditions in the Sacramento and American Rivers.

Because of the above objections, we have classified this DEIS as category EO-2, Environmental Objections - Insufficient Information (see attached "Summary of the EPA Rating System"). We appreciate the opportunity to review this DEIS. Please send two copies of the Final EIS to this office at the same time it is officially filed with our Washington, D.C. office. If you have questions or wish to discuss our comments, please call Ms. Laura Fujii, of my staff, at (415) 744-1601.

Sincerely,

Deanna Wieman, Deputy Director
Cross Media Division

Enclosure: (5 pages)

Filename: ebmud.dei
MI002702

cc: Kurt Ladensack, EBMUD
USFWS, Sacramento
NMFS, Santa Rosa
COE, San Francisco
SWRCB

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

COMMENTS

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Alternatives Analysis

1. The DEIS evaluates a full-use scenario and describes additional supplemental water supply options such as a conjunctive use project with the County of San Joaquin. Given the potential significant adverse impacts to fisheries, we urge Reclamation and EBMUD to commit to additional environmental evaluation if additional projects linked to the EBMUD contract and supplemental water supply project are proposed. F1-1

2. It is EPA's position that Reclamation should ensure that its decision to provide additional diversions from the American River is consistent with and supports the Central Valley Project Improvement Act (CVPIA) and CALFED ecosystem restoration goals. We recommend the FEIS include specific discussions and tables demonstrating that preferred and proposed alternatives promote the goals of existing and ongoing efforts to restore the Sacramento and American River ecosystems, including CVPIA [notably, provisions in Section 3406(b)] and CALFED actions (e.g., the Ecosystem Restoration Program Plan). For example, the FEIS should clearly demonstrate that changes in flows, particularly during sensitive months and drier years, do not hinder riparian and fish restoration efforts or conflict with actions to improve and achieve water quality standards in the American River and San Francisco Bay Delta. F1-2

3. In addition, we recommend the FEIS evaluate in more detail potential links to the plans being developed by CALFED and Sacramento Water Forum. For instance, the evaluation should include a discussion of the water supply actions and alternatives being designed by these forums and potential links to the EBMUD's proposed project. F1-3

4. The FEIS should described in detail the specific water conservation measures and commitments which have been integrated into the proposed alternatives. If Reclamation decides to provide contract water, contract provisions should reinforce aggressive application of Best Management Practices (BMPs) identified in the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California. We recommend including specific requirements (e.g., metering and implementation of applicable best management practices) as a condition of water diversion and any subsequent contract renewals. F1-4

5. The FEIS should discuss in detail how water pricing (for example, tiered pricing which escalates unit costs with greater usage) and water transfers can be used to further encourage water conservation and reduce dependence on contracted water. F1-5

EPA DEIS COMMENTS, BOR, EBMUD SUPPLEMENTAL WATER SUPPLY PROJECT, FEB 1998

Alternatives Screening

The DEIS (pages 2-34 to 35 and Appendix B, Chapter 4) addresses screening criteria used to identify alternatives meeting EBMUD objectives. Taken together, these screening criteria are substantially narrower than the overall project purpose and need (page S-2) and have been used inappropriately to limit the range of alternatives under consideration. EPA fully supports EBMUD's purpose and need to obtain a supplemental water supply to assist in meeting its drought needs, reducing customer deficiencies during extended droughts, and providing system reliability. On the other hand, we strongly believe that the purposes of using the existing Reclamation contract for American River water, obtaining only the highest quality of water, and requiring implementation by 2001 are highly restrictive and constrain the discussion to a narrow spectrum of alternatives. We urge Reclamation and EBMUD to refocus their evaluation on the underlying project purpose of providing a supplemental water supply that is not tied to EBMUD's existing Mokelumne River water supply. F1-6

WATER RESOURCES

1. Reclamation and EBMUD propose the diversion of up to 150,000 acre feet upstream of the Sacramento/San Joaquin Bay Delta (Bay Delta), which, regarded cumulatively with other diversions, could exacerbate flow and water quality problems within the Bay Delta. Although the DEIS evaluates the potential hydrologic effects on some rivers and reservoirs and on water supply, discussion of potential effects of reduced flows on the Sacramento River below the confluence with the American River and the Bay Delta is limited. For example, the EIS indicates that there could be appreciable reductions in the frequency of meeting AFRP flows in the American River; even without factoring in cumulative diversions, the proposed project could also appreciably reduce flows in the lower Sacramento during dry years (page 5-21). The FEIS should included additional information evaluating these potential impacts. F1-7

2. EBMUD's contention that it is obligated to take the highest water quality available for drinking water is not accurate. While EPA supports the use of better quality water, we must also emphasize that this objective should be weighed alongside other considerations, such as fisheries protection. EBMUD has not demonstrated that higher water quality is needed to meet health-protective drinking water standards. EBMUD claims that reverse osmosis and membrane filtration would be required for them to use water other than American River water, and that these treatment measures would be prohibitively expensive (Appendix B). We note that other utilities successfully treat other water sources, such as Delta water, to meet public health goals. The FEIS should provide detailed statistics and data to support the claims regarding the inability to treat other water sources. F1-8

3. The DEIS also states that much of EBMUD's future increased water needs are to compensate for increased flows for senior water rights holders and resource protection in the Mokelumne River and for resource protection in the San Francisco Bay/ Sacramento-San Joaquin River Delta. If this is so, other creative alternatives may be possible to address these water needs which may not have to meet stringent drinking water quality requirements. The FEIS should provide additional information regarding the amount of flow necessary to meet the above water needs and evaluate potential measures or alternatives which could address them. F1-9

Mitigation

The DEIS clearly demonstrates that the cumulative impacts of the proposed new water supply diversion could have a significant adverse impact on fisheries, recreation, and water quality (e.g., flows and temperature). The primary mitigation for this exacerbation of the existing poor condition is contribution to the Regional management efforts to improve conditions in the American River. We strongly urge Reclamation and EBMUD to commit to additional mitigation measures to counter this adverse cumulative impact trend and to address adverse incremental impacts to other fisheries and resources. Other mitigation measures could include habitat improvements, screening of diversions, and payments to acquire environmental water supplies elsewhere in the ecosystem. F1-10

Section 404 Wetlands

1. The DEIS provides program-level discussion of facilities which may be needed to implement the proposed water diversion and distribution. If, at a later, site-specific level there is an individual Section 404 permit involved, EPA will ask for a Least Environmentally Damaging Practicable Alternative (LEDPA) demonstration. This will require adequate documentation that less-damaging options (e.g., demand management, other diversion points) not evaluated in this DEIS are indeed not practicable or have been exercised to the maximum extent. F1-11

It is our understanding that the US Corps of Engineers is considering a Nationwide Section 404 Permit for the proposed project. EPA considers the potential direct, indirect and cumulative impacts of project implementation to be more than minimal and recommend an individual Section 404 Permit be sought. Given the potential construction of a new diversion structure within the lower American River, the significant adverse cumulative effects to fisheries and water quality, and the high level of public scrutiny and interest in the proposed project, we believe an individual Section 404 Permit and it's Public Interest Review may be appropriate.

2. To minimize potential impacts to sensitive wetland resources, we recommend all pipeline facilities be jacked or tunneled under rivers, creeks, streams, and vernal pools and their associated swales. F1-12

GENERAL COMMENTS

1. Although the DEIS adequately describes potential changes in existing conditions as a result of the proposed project, it often does not link these changes to potential ecosystem effects. For example, the description of cumulative impacts to vegetation and wetland resources describes changes in flow regimes without describing the potential affect of these changes on riparian or wetland vegetation (pg. 7-19). Another example is the description of flow changes in regards to fisheries (pg. 5-16). Again, the change in flows is described but not linked to potential effects to the fishery. The FEIS should fully evaluate the potential ecosystem effects which may occur as a result of the proposed action. F1-13

Response to Comments of the U.S. Environmental Protection Agency, Region IX

F1-1, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

EBMUD agrees that if modifications to the project are proposed in the future, they may require appropriate additional environmental review. No project with San Joaquin County has been identified. See response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document. The proposed amendatory contract provides for future review by Reclamation for actions related to conjunctive storage. See Appendix A to this Final EIR/EIS.

F1-2, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

See response to "Relationship to CALFED" major issue in Chapter 3 of this document. The lead agencies are both committed to the CVPIA and CALFED processes and are key agencies in both of those processes. The Supplemental Water Supply Project's relationship to possible CALFED actions is described in Chapter 1 of the 1997 Draft EIR/EIS. The proposed contract amendment in combination with on-going implementation of EBMUD's Water Supply Management Program, which encompasses conservation, reclamation, and enhancement of the lower Mokelumne River, is consistent with and supportive of CVPIA and CALFED. Providing a safe and reliable water supply is a key aspect of Reclamation's mission. The 1997 Draft EIR/EIS fully discloses the potential effects of Alternatives 2 and 3 on American River flows and concludes that these effects would result in less-than-significant impacts on the ability of Reclamation to meet AFRP (3406[b]) flows (pages 5-9 through 5-22 and Tables 5-7 through 5-34). In addition, Reclamation is committed to meeting all relevant environmental requirements such as the Bay-Delta Accord, and those related to the Endangered Species Act consultations and water quality standards.

F1-3, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

The lead agencies are active in the CALFED process. The Water Forum planning process included a delivery to EBMUD on the lower American River similar to Alternative 3, Joint Water Supply, as described in the 1997 Draft EIR/EIS (pages 3-2 through 3-5), in its cumulative case. The Supplemental Water Supply Project's relationship to possible CALFED actions is described in Chapter 1 of the 1997 Draft EIR/EIS. See also response to "Relationship to CALFED" major issue in Chapter 3 of this document.

F1-4, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

EBMUD has been very aggressive in pursuing urban water conservation programs pursuant to the Best Management Practices identified in the Memorandum of Understanding Regarding Urban Water Conservation. EBMUD has metered water use for many years. Pages 1-7 through 1-12 of the 1997 Draft EIR/EIS summarize the extensive water reclamation and conservation programs being implemented by EBMUD. These programs will continue to be implemented with or without adoption of the Supplemental Water Supply Project. If EBMUD were not implementing these aggressive measures, EBMUD's need for water would be substantially greater than outlined in the 1997 Draft EIR/EIS.

Reclamation has included appropriate water conservation requirements pursuant to Reclamation contracting policies in the proposed amendatory contract. See Appendix A to this Final EIR/EIS.

F1-5, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

See response to Comment F1-4 above. EBMUD has undertaken extensive analyses of these issues in separate forums as described on pages 1-5 through 1-15 of the 1997 Draft EIR/EIS. The EBMUD Board of Directors annually sets rates, including tiered pricing, as part of the budget approval process. Because of conservation and water reclamation measures, EBMUD would be able to meet projected buildout demand in its service area in most years without a supplemental water supply. However, during extended droughts, a supplemental water supply is required. Pages 1-7 through 1-12 of the 1997 Draft EIR/EIS provide information on the need for the supplemental water supply.

F1-6, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

See response to "Alternatives Considered" major issue in Chapter 3.

F1-7, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

The Draft EIR/EIS fully discloses the potential effects of changes in river flows and Delta inflow resulting from Alternatives 2 and 3 and from changes in flows under cumulative conditions (pages 3-16 through 3-22 and pages 5-9 through 5-25 in the 1997 Draft EIR/EIS). The 1997 Draft EIR/EIS indicates that average annual deliveries to EBMUD would be approximately 29,000 AF under Alternative 2 and approximately 35,000 AF under Alternative 3. Deliveries under the proposed amendatory contract terms may be even less. As shown in Figures 3-2 and 3-3 of the 1997 Draft EIR/EIS, deliveries to EBMUD would be minor or nonexistent in most years. The cumulative impact analysis for Alternatives 2 and 3 is also an appropriate representation of cumulative impacts under Alternatives 4-8.

As shown in Table 5-9 of the 1997 Draft EIR/EIS, the incremental percentage of time that the alternatives would cause the river to drop below AFRP flow targets is extremely small: generally a 0–1% decrease in the frequency, with occasional increases in the frequency of meeting these flows as well. Neither project alternative is likely to affect lower Sacramento River flows. As indicated in Table C-16 in Appendix C of the 1997 Draft EIR/EIS, changes in average annual Sacramento River flows at Freeport are expected to be 0–0.3% under Alternative 2 and 0.6–1.5% under Alternative 3. It should be noted that a substantial proportion of the change under Alternative 3 would actually be attributable to diversions by the City of Sacramento and the County of Sacramento. Annual average deliveries to EBMUD are very similar under the alternatives; therefore, changes in Sacramento River flows at Freeport attributable to the proposed contract amendment and EBMUD deliveries would be nearly identical under both alternatives. Therefore, no additional information is needed to adequately evaluate impacts.

F1-8, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

See response to "Delta and Sacramento River Alternatives" major issue in Chapter 3.

F1-9, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

EBMUD has completed an extensive program as part of the Lower Mokelumne River Management Plan process to identify downstream needs and available supplies. As part of that effort, various options and alternatives were fully explored. The Lower Mokelumne River Management Plan has been adopted by the EBMUD Board of Directors, and a settlement agreement was approved by the Federal Regulatory Energy Commission in November 1998. Reclamation could potentially benefit from the

Supplemental Water Supply Project because there may be an increased flexibility on targeting flows for Delta environmental purposes.

F1-10, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

EBMUD and Reclamation are committed to participating in the mitigation of cumulative impacts on the lower American River. Such cumulative impacts would occur regardless of whether one of the project alternatives were implemented. However, detailed mitigation plans for the American River as a whole have not yet been developed and are currently being considered in several other forums, including CVPIA, CALFED, and the Water Forum. As more detailed plans are developed, including habitat improvements and flow-related measures, EBMUD and Reclamation may participate in these efforts as appropriate. EBMUD's participation will be based on the Supplemental Water Supply Project's contribution to cumulative impacts. The 1997 Draft EIR/EIS adequately evaluates the potential fisheries impacts resulting from Alternatives 2 and 3 and identifies appropriate mitigation measures for cumulative impacts (see pages 5-1 through 5-79 in the 1997 Draft EIR/EIS). The intake structure would be screened in accordance with resource agency requirements.

F1-11, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

The discussion of project-related impacts is appropriate at the site-specific level. EBMUD is currently discussing permitting requirements with numerous regulatory and resource agencies. Should an individual Section 404 permit be required, EBMUD would prepare the necessary documentation to obtain such a permit.

F1-12, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

As described on page 2-12 in Chapter 2 of the 1997 Draft EIR/EIS, planned construction methods across minor streams and wetlands include open cut methods during the dry season. Mitigation measures outlined in Chapters 7 and 8 of the 1997 Draft EIR/EIS are designed to reduce impacts on sensitive habitats including wetlands from these construction methods. The affected areas are anticipated to be small and the impacts short-term due to the nature of the pipeline installation project. The final project design will attempt to avoid sensitive vernal pool habitats and dense riparian habitat. For larger rivers such as the Mokelumne, tunneling construction methods are planned, as stated on page 2-13 of the 1997 Draft EIR/EIS.

F1-13, Deanna Wieman, U.S. Environmental Protection Agency, Region IX

The 1997 Draft EIR/EIS provides discussion of the affected environment for each resource area and then lists the effects (impacts) anticipated from the project and appropriate mitigation measures (Chapters 3-18). The examples included in the comment letter center around flow rate effects on ecosystems. Reduced flow impacts are listed in the Environmental Consequences sections of each applicable chapter. Page 5-10 of the 1997 Draft EIR/EIS provides a detailed analysis of the effects on fisheries anticipated from reduced flows. Impacts on riparian vegetation affected by changes in water levels is discussed on page 7-9 of the 1997 Draft EIR/EIS in the Survey Methods and Assumptions section. No significant impacts on vegetation resources were identified in the analysis.

UNITED STATES DEPARTMENT OF COMMERCE
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Mr. Cecil Lesley
Contracts Specialist
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630

Dear Mr. Lesley:

Thank you for the opportunity to comment on the October 1997 draft Environmental Impact Report/Environmental Impact Statement (DEIS) for the *East Bay Municipal Utility District Supplemental Water Supply Project*. The proposed project would enable the East Bay Municipal Utility District (EBMUD) to annually take delivery of up to 150,000 acre-feet of American River water, under its existing Central Valley Project (CVP) water service contract with the U.S. Bureau of Reclamation.

EBMUD is considering proceeding with an American River project under one of three alternatives. Alternative 1 is the "no-project" alternative, which includes some increased water supply development to meet projected demand growth in the EBMUD service area. Under Alternative 2, EBMUD would take water from its contractual delivery point on the Folsom South Canal (FSC), which originates at Nimbus Dam. This would provide higher quality water, but would be subject to court-ordered flows (the Hodge decision) that would allow less water to be delivered to EBMUD in dry years.

Under Alternative 3, a new delivery facility would be constructed on the lower American River near its confluence with the Sacramento River, in cooperation with the City of Sacramento and the County of Sacramento. This new delivery facility would be screened according to National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Game (CDFG) fish screen criteria, and would also be used to deliver water to the City and County of Sacramento under their own respective water rights.

General Comments

I strongly disagree with the DEIS' conclusion that project impacts to fisheries, including chinook salmon and steelhead, are less than significant. Anadromous species are now limited to the lower 23 miles of the American River, from Nimbus dam to the confluence with the Sacramento River. F2-1

As stated in the DEIS, under current conditions, high water temperature is a major limiting factor for natural steelhead production (p.5-4). Water temperatures often exceed optimal levels for chinook salmon spawning in fall, and for juvenile salmon and steelhead during spring and summer, especially in dry and critically dry water years (p.5-6). Significant reductions in Folsom Reservoir storage in dry and critically dry water years can cause water temperatures to exceed suitable levels for chinook salmon egg survival in October and November under current conditions, adversely affecting both natural and hatchery production (p.5-6).

Also, fishery resources of the lower American River are subject to relatively rapid flow fluctuations, which can cause mortality of eggs and larvae by exposing redds, reducing flow rates through the redds, or increasing water temperatures (p.5-2). Flow fluctuations during the early rearing period can trap juveniles in isolated pools and backwaters, where they are subjected to elevated water temperatures, low dissolved oxygen levels, and high predation rates (p.5-2). Other potential adverse effects of flow fluctuations on fish populations include reduced production of aquatic food organisms, rapid changes in physical habitat conditions, and loss of temperature stratification in pools (p.5-2).

As a result, it is estimated in the DEIS that 33 to 80 percent of American River fall run chinook production, and almost all of steelhead production is supported by the Nimbus salmon and steelhead hatchery. However, even the hatchery conditions are marginal. Reared steelhead and chinook salmon eggs have had to be transported to hatcheries on the Feather and Mokelumne rivers to avoid mortality during summer and fall, because water released from Nimbus dam at temperatures over 56°F has caused mortality to eggs and juveniles (p 5-2).

The modelling analysis in the DEIS indicates that the Hodge decision flows and/or Anadromous Fish Restoration Program (AFRP) flows are frequently not met under current conditions, and that even when these flows are provided, temperature thresholds for chinook salmon and steelhead are frequently exceeded during March through October (see p.5-32). Thus, under existing conditions, it is already questionable whether naturally spawning populations of chinook salmon or steelhead are sustainable in the American River. The DEIS analysis also indicates that either of the proposed alternatives would increase the number of months when water temperatures are warmer for juvenile steelhead and chinook

salmon, and increase the number of months during March-December in which Hodge and AFRP flows are not provided (e.g. p.3-18). This could directly increase losses of juveniles of the proposed-endangered Central Valley steelhead, and the endangered winter-run chinook salmon. Given the status of these species, I believe that these incremental impacts should be considered highly significant. F2-2

The only proposed mitigation for these impacts is for EBMUD to contribute to ongoing regional fishery management efforts by the Bureau of Reclamation, Sacramento Area Water Forum, State Water Resources Control Board, and Sacramento County. Specifically, this includes supporting construction of a temperature control device on Folsom Reservoir. However, contribution to this action should not be considered mitigation for the project, since this action would go forward even without the project. Furthermore, the DEIS indicates that net cooling of water provided by the temperature control device would be minimal. Finally, other projects on the American River, such as the joint San Juan Water District/Sacramento County Water Agency water supply project, are also counting construction of the proposed temperature control device towards their own project mitigation. F2-3

The current AFRP recommends American River instream flows that it is hoped will allow for the doubling of naturally spawning populations on the American River. Given the poor summer rearing temperatures projected to occur under the proposed AFRP flows, I am concerned that these flows may not be sufficient to achieve the doubling objective. At a minimum, I recommend that no new water supply projects be initiated on the American River until the AFRP flows are provided and salmonid populations have been shown to begin recovery in response to these new flows. F2-4

Need for section 7 consultation

I recommend that the Bureau of Reclamation request consultation with NMFS for project impacts to the endangered winter-run chinook salmon, and conferencing for project impacts to the proposed-endangered Central Valley steelhead. Based on the information provided in the DEIS, I believe that this project would result in significant adverse impacts to both of these populations. F2-5

Specific Comments

P.5-18: It is stated here that the impact on fisheries in the lower American River is less than significant because "the frequency that Hodge Decision and AFRP flows would not be met during the prescribed months, and the frequency that these flows would be met during critical life stages for the species evaluated, would not change substantially from conditions under Alternative 1." Similar arguments are made for the resultant effects on temperatures. F2-6

However, I question the use of Alternative 1 as the basis for comparison. Given the existing status of steelhead as proposed-endangered, it is unreasonable to assume Alternative 1 would be implemented, given its incremental impacts to steelhead above existing conditions. Therefore, Alternatives 2 and 3 should be compared against existing conditions, or even a scenario that provides improvements over existing conditions, rather than Alternative 1.

P.5-19: It is stated that in drier years, additional American River diversions caused by the project could reduce lower Sacramento River flows by about 3 to 5 percent. I disagree with the DEIS' conclusion that this impact is less than significant. In dry years, survival of anadromous fish, including the endangered winter-run chinook salmon may be significantly affected by changes in instream flows. This, among other factors, may affect habitat quality, susceptibility to predation, food supply, risk of entrainment into unscreened diversions, outmigration rates, and smoltification success. F2-7

If you have any questions please contact Mr. Chris Mobley at (707) 575-6056.

Sincerely,

for Rodney R McInnis

William T. Hogarth, Ph.D.
Regional Administrator

cc: Wayne White, USFWS
John Turner, CDFG

Response to Comments of the National Marine Fisheries Service

F2-1, William T. Hogarth, National Marine Fisheries Service
The information contained in Chapter 5 of the 1997 Draft EIR/EIS supports the findings that Alternatives 2 and 3 would not result in significant impacts on anadramous fish species. Disagreement among experts is not unusual or prohibited by CEQA or NEPA. The methodology and significance criteria in the 1997 Draft EIR/EIS were carefully developed in light of the available information and assessment tools. Substantial information is presented in the 1997 Draft EIR/EIS to support the conclusions.

Reclamation actively participates in a variety of programs to improve conditions that will help offset negative effects on endangered species of concern. Activities on the lower American River that benefit anadromous and native resident fisheries include implementation of fish screening projects, operational changes to provide cooler downstream temperatures, AFRP flows, draft ramping guidelines to reduce stranding, and the formation of the American River Operations Group to facilitate the adaptive management of the system. Reclamation is committed to modifying operations and deliveries CVP-wide as may be necessary to ensure the ability of the CVP to operate consistently with requirements related to the Endangered Species Act.

F2-2, William T. Hogarth, National Marine Fisheries Service
The potential effects of Alternatives 2 and 3 on lower American River flows and temperatures are fully disclosed in the 1997 Draft EIR/EIS (pages 5-18, 5-20, and Table 5-30). Based on the information contained in Chapter 5 of and Appendices C, D, and E to the 1997 Draft EIR/EIS, the incremental effects of Alternatives 2 and 3 on lower American River fisheries are extremely small and not likely to adversely affect anadromous fish in the lower American River. The 1997 Draft EIR/EIS recognizes the overall effects of past and future water development on anadromous fish species and discloses those effects in the cumulative impact analysis (pages 5-22 through 5-25 and Tables 5-7 through 5-34). Cumulative effects on these species are generally found to be significant (pages 5-22 through 5-25).

F2-3, William T. Hogarth, National Marine Fisheries Service
Contributing to and providing assurances of a large-scale mitigation and habitat restoration program is the best and most viable means of mitigating the significant cumulative impacts described in the 1997 Draft EIR/EIS, because these effects are likely to occur regardless of whether Alternative 2 or 3 is implemented. Deliveries to EBMUD are only a small portion of the total cumulative impact described in the 1997 Draft EIR/EIS (as shown in Table 3-3 on pages 3-6 to 3-7), and a proportional contribution to mitigation and habitat restoration programs would be an appropriate mitigation program. The 1997 Draft EIR/EIS does not claim "credit" for implementation of the Folsom Reservoir Temperature Control Device, nor is Sacramento County Water Agency claiming such mitigation credit. Rather, both agencies recognize that construction of the temperature control device could somewhat reduce temperature increases that could result under cumulative conditions.

F2-4, William T. Hogarth, National Marine Fisheries Service
Reclamation has been voluntarily attempting to meet AFRP flows for the past few years. Demands from the American River are increasing, and it is appropriate to consider projects as they are proposed. No moratorium on projects has been proposed or implemented by any agency to date. F2-5, William T. Hogarth, National Marine Fisheries Service

Reclamation requested initiation of formal consultation with NMFS to address effects on listed species under the jurisdiction of NMFS in late 1998. Consultation is ongoing.

F2-6, William T. Hogarth, National Marine Fisheries Service
The most significant change in the hydrologic modeling analysis between existing conditions and Alternative 1: No Action is the presumed implementation of AFRP flows. Although demands were increased somewhat under Alternative 1, deliveries made under this scenario were limited to those circumstances where no new infrastructure or water entitlements were necessary to take delivery of increased supplies. Because of this approach, deliveries made under Alternative 1 were very similar to deliveries made under existing conditions. In either case, the hydrologic modeling simply provides a basis for comparing environmental conditions with and without implementation of the project alternatives. The incremental effects of the alternatives would be essentially identical regardless of what modeling assumptions were used as the basis of the analysis. Also, to provide a full range of analyses, the cumulative impact analysis uses the existing conditions hydrologic modeling as the basis for the analysis (pages 3-1 and 5-22 through 5-25 of the 1997 Draft EIR/EIS).

F2-7, William T. Hogarth, National Marine Fisheries Service
As indicated in Table C-16 in Appendix C to the 1997 Draft EIR/EIS, flow changes attributable to Alternatives 2 and 3 range from 0% to 1.5% on an average monthly basis, depending on the alternative. Such changes in flows are very small and are not considered likely to adversely affect fish residing in or using the lower Sacramento River. Reclamation is required to meet the terms and conditions of the biological opinions covering its Operational Criteria and Plan (OCAP), and implementation of Alternative 1 or 2 would not affect compliance with those opinions.

United States Department of the Interior

F 3

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

IN REPLY REFER TO

March 23, 1998

MEMORANDUM

To: Tom Aiken, Area Manager, U. S. Bureau of Reclamation, North-Central California Area Office, Folsom, California (Attention: Rod Hall)

From: Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Comments on the Draft Environmental Impact Report/Environmental Impact Statement for EBMUD's Supplemental Water Supply Project

Thank you for the opportunity to comment on the Administrative Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and this Draft EIR/EIS for East Bay Municipal Utility District's (EBMUD) Proposed Supplemental Water Supply Project.

The stated purpose of this project is to provide EBMUD with a supplemental water supply to reduce existing and future customer deficiencies to manageable levels during drought conditions, and to provide an alternative water supply in case of planned or unplanned outages at EBMUD's Mokelumne River diversion facilities. The stated need for this project is to provide a supplemental water source because existing water supplies are insufficient to meet current and future customer needs during droughts despite implementation of significant water conservation and water reclamation programs and an aggressive dry-year customer deficiency policy. To accomplish the stated purpose and need, taking delivery of water under an existing water contract between the Bureau of Reclamation (Reclamation) and EBMUD for up to 150,000 acre-feet of American River water is proposed.

We are submitting the following comments:

Specific Comments:

Page S-2, Project Objectives. Include the Hodge Decision directives. The bullets listed on this page should accurately reflect the Hodge Decision. The Decision should not be confused with EBMUD's planning objectives, but EIR/EIS planning objectives should be consistent with the Hodge Decision. F3-1

Purpose and Need. Based on a reevaluation of American River water availability and EBMUD's drought year needs in addition to its existing supplies, Reclamation's contract with EBMUD from the American River water during drought years was changed from the original 150,000 acre-feet (AF) to F3-2

70,000 AF in dry years and from 112,000 to 112,500 AF during all other years. The EIR/EIS makes no mention of this change nor does it describe the relationship of the court's reserved jurisdictional involvement in the adjustment to the Hodge Decision components due to "new evidence" in the reevaluation. Furthermore, according to the Water Forum draft summary (December 1997) the 70,000 AF to 112,000 AF is reflected in their projected American River demand analysis, but not in the EIR/EIS.

EBMUD has the capability of pumping from the Delta. This option was implemented during past drought conditions (1976 and 1977). We recognize that Delta water quality is not as high quality as that of either the Mokelumne or American Rivers. The screening criteria are structured so that the Delta or Bixler Pumping Plant source is not a "reasonable" option and was eliminated from further consideration. However, over half the residents of the State of California rely on the Delta as their water supply source. Furthermore, EBMUD has used the Delta as a water supply source, but there is no mention of this water source ever being used. The Bixler Pumping Plant or any other potential Delta diversion site should be discussed in the context of potential water supplies. When a Delta water supply is coupled with water treatment, the diversion site(s) appears to be a reasonable alternative water supply source. Implying that EBMUD would be left with no alternative water supply without this project does not reflect actions taken in the past to meet drought deficiencies. F3 - 3

Page S-5, Alternative 3: Joint Water Supply. The Hodge Decision flows will be met prior to diverting water in Alternative 2, but there is no mention of how the Hodge flows are used in this Alternative (3). To determine the potential environmental effects, the EIR/EIS must address the following: Will the diverted water be released in addition to the Hodge Decision flows or is it proposed to take diversions from the same flows? What is the relationship between the change in the diversion point and the American River instream flows before and after diversions. What is the potential for increasing Mokelumne River water supplies by other water users in response to less EBMUD diversions due to the new American River water supply? The Department of the Interior, Office of the Solicitor's (Solicitor) opinion on the new conditions and the effects of those on the Hodge Decision should be included in the EIR/EIS. F3 - 4

The instream flow baseline remains confusing. At times the Hodge Decision flows are used and at other times it is not clear if the AFRP, Water Forum, D-893, D-1400 or some combination will be used. Flows reaching the Delta from the American River and all other tributaries in the State are critical to meeting Bay-Delta water quality standards, the Delta smelt Biological Opinion, and WR Order 95-6. F3 - 5

The Hodge Decision clearly states the flow release level from Nimbus Dam to the American River which then would allow water diversions above the instream flow requirement at Nimbus Dam to the Folsom South Canal and subsequently to EBMUD. However, the Hodge Decision does not address diverting from the same releases to provide EBMUD's water supply. As the Hodge Decision reads, when American River flows are met, diversions would be in addition to the base flows. Is there "new evidence" to support that a change in diversion point downstream of Nimbus Dam allows EBMUD to divert from the same flows that the Decision required in the River to maintain its functional health? F3 - 6

Pages S-7 to S-28. The EIR/EIS uses "significance criteria" throughout the document. The "significance criteria" are used to determine if mitigation/compensation needs are triggered for project effects. The relationship of "significance" is relative. Effects should be reflected quantitatively and not in relationship to "significant" and "substantial" effects as used under the California Environmental Quality Act (CEQA). Identifying effects and compensation/mitigation actions should be the focus of the EIS under the National Environmental Policy Act (NEPA). The significance determination and level of mitigation/compensation should be made by the reader/reviewer and ultimately the decision maker. F3-7

The EIR/EIS does not include mitigation or compensation for potential actions. Instead, the EIR/EIS mitigation/compensation components are presented such that EBMUD or Reclamation can pursue mitigation if required by regulation, permit, license or other local policies. The EIR/EIS should clearly disclose what mitigation/compensation actions will or will not be implemented. The EIR/EIS does not contain commitments to implement mitigation/compensation actions for effects to the human environment. The EIR/EIS views most environmental effects as "less than significant" (CEQA terminology) without requiring mitigation or compensation actions (stating that no mitigation is required in most instances). F3-8

Page 1-1, Introduction, third paragraph. List the proposed contract amendments which will trigger project operation modifications to accommodate alternatives. F3-9

Page 1-2, Purpose. The EIR/EIS is not clear when the American River supplies will be utilized and for what purpose. The purpose and need sections indicate that the water supply would be used during drought years. However, in the Water Forum reports 70,000 to 112,500 AF would be used during drought years and 112,500 AF would be used in all other years. Is this water supply considered a drought year and/or outage water supply or is there another purpose for this water during non-drought years? F3-10 The EIR/EIS briefly mentions (page 1-13) groundwater banking in San Joaquin County, but this is not included as a project component nor is it included as a current related activity (pages 1-14 to 15). If this is to be a use of the water, the EIR/EIS should be revised to clearly indicate this use. All related environmental impacts should be evaluated. F3-11

Page 1-6, Updated Water Management Program, first paragraph, last sentence. EBMUD has the capability of pumping from the Delta at several locations, including Bixler Pumping Plant. This option was implemented during past drought conditions and should be described along with a discussion of why Delta pumping is not considered as a "reasonable" alternative. The document briefly acknowledges this water source, but it is not an option in the analysis nor is it included in rationing projections. F3-12

Page 1-10, Summary section or main text as appropriate - if the document uses several water measuring methods provide conversion factors or consistently use only one of the volume measures MGD or AF. F3-13

Page 2-3 Project Alternatives: Under the Federal Energy Regulatory Commission (FERC) Agreement when EBMUD receives additional water deliveries from alternative sources other than the Mokelumne R)% (up to 20,000 AF) of those deliveries would be released to supplement F3-14

Mokelumne River in stream flows. This translates to supplemental Mokelumne River flows of 14,000 AF when 70,000 AF is delivered from the American River source and 20,000 at the 112,500 to 150,000 level. Add to all action alternatives.

Page 2-7, Alternative 1: "No Action" The Delta was used in the past (1976 and 1977) to supply drought deficiencies and the EIR/EIS does not disclose that this water source was ever used. For full disclosure the alternative of applying to renew the expired Corps of Engineer's and State Water Board permits for Delta pumping at Bixler (90 cfs) should be evaluated. Coupling pumped Delta water with Pardee Reservoir's drought reserve during drought periods, developing a local water supply yield, conjunctively using EBMUD's terminal reservoirs (120 days of supply at normal demand), and demand management should be carried forward as a viable alternative to meet the project's basic purpose and need for drought year(s) and outage water supplies. There are water quality concerns with using this source, but improved water treatment can alleviate the past problems. More than half the State of California uses the Delta as its water supply source. However, the EIR/EIS does not fully discuss this EBMUD historical water supply source, states that raw water quality is the criterion to select a supply, and discounts the Delta as a water supply because it is too costly (no evidence provided) to upgrade the pumping plant and water treatment facilities. F3-15

Last sentence. EBMUD has had a backup supply without this project in the past - the Delta and terminal reservoirs. Correct this statement.

Page 2-8, Alternative 2, first paragraph. Up to 350 cfs is planned for the diversion from Nimbus Dam releases and the maximum conveyance capacity of the Mokelumne Aqueduct is 328 cfs. Diversions at this rate for one year is about 255,500 AF. F3-16

Page 2-15, Alternative 3, first paragraph. Is it correct to assume that 155 cfs (about 113,150 AF per year) for EBMUD would be diverted at the new I-5 diversion point and the remaining 195 cfs would be released from Nimbus Dam into the Folsom South Canal? If so clarify this distinction in the EIR/EIS. F3-17

Page 2-20, Operations, EBMUD, first paragraph. It appears that the operations under Alternative 3 are different than that directed under the Hodge Decision. Second paragraph. Attach the Solicitor's opinion supporting the assumption that the Hodge Decision does not apply due to the diversion location change. Third paragraph. Planned outages are projected to occur infrequently and to last a maximum of six months. According to the data presented in the EIR/EIS, EBMUD's terminal reservoirs combined with Delta pumping and slight use restrictions could provide an adequate planned outage supply within the service area during such periods. F3-18 F3-19

Second paragraph, third sentence. Does this mean that EBMUD only intends to use the American River supply 12 months in a 20-year period? Provide a schedule when EBMUD intends to use this water supply at least totaled on an annual basis. F3-20

Page 3-3, Table 3-1, Primary Assumptions Used in the EBMUD PROSIM Modeling, Alternative 1: No Action (2030) column, American River demands. This total does not match that which is projected under the American River Water Forum. To be consistent with the d: ented F3-21

at the Dec. 10, 1997 Water Forum meeting, the total should be 537,750 AF instead of the 368,000 AF in the Table. Furthermore, Surface Water Resources Inc. modelers recently uncovered a PROSIM error deficiency totaling over 350,000 AF which causes the EIR/EIS modeling to be unreliable for projecting project effects.

Page 3-2, Table 3-2. The water demand totals in this table do not match that which is projected under the American River Water Forum projections. F3-22

Page 3-6, Table 3-3. The water demand totals in this table do not match that which is projected under the American River Water Forum projections. F3-23

Page 5-14, Assumptions, First Bullet. "PROSIM reasonably simulates river and Delta flows and reservoir storage effects under existing conditions and alternatives": Although this statement may be true, PROSIM modeling is limited to monthly flow averages and does not provide accurate weekly or daily flow changes which relate to water quality and Delta smelt or winter-run salmon effects. F3-24

Pages 7-1 to 8-16, Chapters 7&8, Vegetation and Wetland Resources - Wildlife, Environmental Consequences. Again the "significance" question under CEQA. The analysis may suffice for CEQA, but not to determine actual fish and wildlife net effects. What are the areas affected and what compensation will take place? The decision document can then put the impacts and mitigation into perspective. This analysis is too general to allow an effects determination. The intent of the analysis appears to be that mitigation will not occur unless required by permit action. F3-25

Page 8-1-15, Affected Environment. Giant garter snake (*Thamnophis gigas)* was not included in the draft EIR/EIS. The giant garter snake receives full protection under the Endangered Species Act of 1973, as amended. The proposed project area is within the range of the giant garter snake. Giant garter snakes have been reported within approximately 3 miles of proposed affected areas. The presence of low gradient streams and marshes provide habitat for this species within the proposed project area. F3-26

Chapter 18. Cumulative analysis.

Page 18-1, Quantitative Cumulative Impact Analysis, first paragraph, first sentence. The sections referenced in this chapter have some quantitative analysis, but some of the assumptions used in those sections are questionable. The information in this chapter does not appear to contain all incremental American River projected water uses and the PROSIM error causes the analysis to be of limited value. F3-27

Page 18-3, Aquatic Resources. The discussion of CVPIA and CALFED actions is informative, however, it is questionable if those actions are designed to mitigate EBMUD's new water diversion. F3-28

Page 18-8. Supplemental Water Supply ..... To state that using 150,000 acre-feet of American River water in EBMUD's service area "would likely have no additional growth-inducing effects" because the issue is in another program needs to be substantiated. F3-29

Page 18-9, EBMUD Growth Policies. These policies make no mention of mitigation actions due to development. Equal consideration for fish and wildlife resources needs to be provided. F3-30

Page 20-2, Federal Endangered Species Act.

Federally Listed Species

The DEIR/EIS is insufficient to serve as a biological assessment for the purposes of formal consultation pursuant to section 7 of the Act. A biological assessment must analyze all of the direct, indirect, cumulative, interrelated , and interdependent effects of an action. Some of the additional issues that would need to be addressed in a biological assessment are described below. The Service is discussing the section 7 obligations of Reclamation regarding a number of new water contracts on the American River, including the EBMUD contract and others which are associated with the Water Forum. Prior to consummating any of these contracts, section 7 of the Act obliges Reclamation and the Service to address the direct, indirect, interrelated, interdependent, and cumulative effects of these actions. This includes not only effects to the Delta from diversions not addressed in previous biological opinions, but also terrestrial effects from both conveyance and delivery of water. A complete section 7 analysis of all these actions must occur prior to completing the action that is before us in this EIR/EIS. F3-31

Significant service area effects are associated with this project that are unaddressed in the draft EIR/EIS, and which must be addressed in a biological assessment. Water delivered to Contra Costa County within the service area of EBMUD will support additional development that would affect federally listed, proposed, and candidate species, including the endangered San Joaquin kit fox (*Vulpes macrotis mutica*), Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool tadpole shrimp (*Lepidurus packardi*), Lange's metalmark butterfly (*Apodemia mormo langei*), callippe silverspot butterfly (*Speyeria callippee callippee*), Contra Costa wallflower (*Erysimum capitatum* ssp. *angustatum*), Antioch dunes evening-primrose (*Oenothera deltoides* ssp. *howellii*), Contra Costa goldfields (*Lasthenia conjugens*) and large-flowered fiddleneck (*Amsinckia grandiflora*); the federally threatened California red-legged frog (*Rana aurora draytonii*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), and vernal pool fairy shrimp (*Branchinecta lynchi*); the proposed threatened pallid manzanita (*Arctostaphylos pallida*), and the candidate California tiger salamander (*Ambystoma californiense*) and Santa Cruz tarweed (*Holocarpha macradenia*). The draft EIR/EIS includes very little discussion or summarization of effects that are likely to occur as a result of additional available supplies. The draft EIR/EIS is also silent on service area effects from intermediate diversions that could occur in San Joaquin and possibly south Sacramento County if EBMUD sells water supplies in excess of drought needs to other water purveyors, rather than conveying all water to the EBMUD service area. Should EBMUD desire to exercise the option of selling excess water, a biological assessment must address service area effects from these sales. F3-32

Based on strategies mutually agreed upon by Reclamation and the Service in other large water delivery consultations, such as Central Valley Project interim contract renewals, Reclamation and the Service address service area effects through development and implementation of conservation actions

that contribute to the recovery of listed species. Local jurisdictions can address service area effects through the development of habitat conservation plans. Whichever approach is used, for Reclamation to meet the section 7 no jeopardy standard for any of the new American River contracts, including EBMUD, time certain and enforceable commitments to listed species recovery actions in areas affected by water deliveries must be developed and included in a biological assessment.

The effects analysis of the diversion of water from the American River is inadequate and completely ignores effects to the placement of X2, outflow and inflow to the Delta and export operations in Delta. Diversion of this amount of water from the American River could substantially impede Reclamation's ability to meet the mandated requirements in the Delta. Therefore, an analysis and modeling of the cumulative actions on delta smelt, delta smelt critical habitat, and the Sacramento splittail needs to be completed. Such an analysis shall include how the diversion of water will affect Central Valley Project (CVP) and State Water Project (SWP) operations and CVP/SWP ability to meet water quality standards in the Delta. The analysis shall include effects to the location of X2 and the number of days X2 is at or beyond the primary compliance points (confluence, Chips, and Roe islands). This analysis shall evaluate the actual location of X2 for both the proposed action and existing conditions without the action. The analysis shall also evaluate such parameters as the export to inflow relationships, inflows, net Delta outflow, and changes in other CVP/SWP reservoirs that may need to be re-operated to maintain the location of X2 in its preexisting location absent the conclusion of the contracts on the American River. A full and complete analysis of the sources of water to meet conditions under WR 95-6 and subsequent biological opinions shall be provided. F3-33

Page 20-2. Fish and Wildlife Coordination Act, first sentence. This statement is accurate, but a second sentence should be added concerning the Fish and Wildlife mitigation policy concerning impacts. The basic principle of this policy is to avoid impacts in the first place. Mitigation for unavoidable effects are then categorized with subsequent compensation/mitigation according to the resource values. F3-34

Questions regarding these comments may be directed to John Brooks (Bureau Projects) at (916) 979-2733 or Jan Knight (Endangered Species) at (916) 979-2710 Ext 380.

for Wayne S. White

cc: EBMUD, Water Supply Improvements Division, Attn: Mr. Kurt Landensack
National Marine Fisheries Service, Attn: Chris Mobley, Santa Rosa, CA.
California Department of Fish and Game, Attn: Jim White, Sacramento CA

Response to Comments of the U.S. Fish and Wildlife Service

F3-1, Wayne S. White, U.S. Fish and Wildlife Service
The Hodge Decision is discussed in Chapter 1, "Purpose of and Need for the Project." As indicated in the discussion of the project objectives in the 1997 Draft EIR/EIS "Summary" and in Chapter 2, "Project Objectives and Alternatives under Consideration," the Supplemental Water Supply Project project objectives are consistent with the Hodge Decision. Prior to implementation of aspecific project, any relationship to the Hodge Decision will be clarified in the appropriate forum.

F3-2, Wayne S. White, U.S. Fish and Wildlife Service
A description of EBMUD's existing water service contract with Reclamation is included in Chapter 1 of the 1997 Draft EIR/EIS. EBMUD and Reclamation have negotiated a proposed amendatory water service contract. The environmental effects of the proposed amendatory contract are included in the analysis in the 1997 Draft EIR/EIS. The terms of the proposed amendatory contract are summarized in Chapter 2 of this Final EIR/EIS.

As stated in the Hodge Decision, the court retains jurisdiction over the Physical Solution, including flow requirements. As new data become available, the flow requirements in the lower American River established in the Hodge Decision could be modified. The hydrologic analysis of Alternative 2 in the 1997 Draft EIR/EIS was based on the lower American River flow requirements stipulated in the Hodge Decision.

F3-3, Wayne S. White, U.S. Fish and Wildlife Service
See major issue responses to "Alternatives Considered" and "Delta and Sacramento River Alternatives" in Chapter 3 of this Final EIR/EIS.

F3-4, Wayne S. White, U.S. Fish and Wildlife Service
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, "Hydrology, Water Supply, and Power," delivery of water to EBMUD under Alternative 2 would only be made when Hodge Decision flows are exceeded at Nimbus. The hydrologic modeling did not assume that additional water would be released from Folsom Reservoir to meet EBMUD demand. A comparison of flows in the lower American River below Nimbus Dam are shown in Table C-11 of Appendix C to the 1997 Draft EIR/EIS. On average, monthly flows in the lower American River would be slightly higher under Alternative 3 than Alternative 2.

There is no evidence to suggest that other Mokelumne River water rights holders would increase diversions even if EBMUD diversions from the Mokelumne River were decreased. In addition, a substantial portion of any increased releases would likely be dedicated to instream flows pursuant to the approved settlement agreement between EBMUD, USFWS, and DFG regarding lower Mokelumne River flows.

Any Department of Interior agency may seek an opinion from the Office of the Solicitor, including the USFWS. However, there is no requirement of law that mandates the inclusion of such an opinion in an EIR/EIS. Also, as stated earlier, clarification will be sought on the issue of consistency with the Hodge Decision.

F3-5, Wayne S. White, U.S. Fish and Wildlife Service
Table 3-1 of the 1997 Draft EIR/EIS shows the major assumptions used in the hydrologic modeling for existing conditions and the No-Action Alternative (Alternative 1). An explanation of the criteria used in the hydrologic modeling is included in Chapter 3, "Hydrology, Water Supply, and Power." For the hydrologic modeling run of existing conditions (1995 conditions), the lower American River flows were based on modified D-1400 flow objectives. For the No-Action Alternative and Alternatives 2 and 3 (2030 conditions), lower American River flows were based on the AFRP objectives as developed in the CVPIA programmatic EIS.

Hodge Decision flow requirements were incorporated into the hydrologic modeling as a restriction on the amount of water that could be delivered to EBMUD through the Folsom South Canal.

As indicated in Chapter 5 of the 1997 Draft EIR/EIS, "Fisheries," both Hodge Decision flows and AFRP flows were used to help evaluate effects on fisheries. These flows were used as tools to help assess the frequency that river flows would be above these thresholds when fish species are present in the river.

F3-6, Wayne S. White, U.S. Fish and Wildlife Service
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, "Hydrology, Water Supply, and Power," it was assumed that, under Alternative 3, deliveries to EBMUD would not be constrained by the river flows stipulated in the Hodge Decision. Alternative 3 is premised on a mutually acceptable project selected by EBMUD, the City of Sacramento, and the County of Sacramento, who agree that Alternative 3 meets the intent of the Hodge Decision. See also response to Comments F3-1 and F3-4.

F3-7, Wayne S. White, U.S. Fish and Wildlife Service
NEPA and CEQA, in particular, require that a lead agency identify significant impacts in a draft EIR/EIS. Under CEQA, the lead agency determines whether a project may result in a significant environmental impact (Public Resources Code Section 21082.2). Each resource chapter in the 1997 Draft EIR/EIS describes the significance criteria used in the analysis and the basis for applying numerical criteria. In most cases, the amount of a particular resource that would be affected by an alternative (e.g., number of months below an important river flow, acreage of vegetation directly affected by pipeline construction, acres of agricultural land converted) was included in the 1997 Draft EIR/EIS regardless of whether the impact was considered less than significant or significant. The 1997 Draft EIR/EIS fully complies with NEPA and CEQA in its establishment of significance criteria. Reclamation has completed numerous joint CEQA/NEPA documents wherein significance criteria were included in order to comply with CEQA.

F3-8, Wayne S. White, U.S. Fish and Wildlife Service
The 1997 Draft EIR/EIS identifies all impacts associated with Alternatives 2 and 3. Chapter 2, "Project Objectives and Alternatives under Consideration," includes a summary of environmental commitments that have been incorporated into Alternatives 2 and 3. These commitments include measures to reduce effects on the human environment. In addition, each resource topic is fully addressed, and mitigation measures are identified for all significant impacts, where mitigation is feasible. Neither NEPA nor CEQA require that a draft EIR or EIS contain firm commitments to mitigation measures. CEQA, for example, requires a lead agency to "describe" mitigation measures (Pub. Res. Code Sec. 21100; State CEQA Guidelines, Sec. 15126.4(a). In fact, such measures cannot be committed to until a decision is made on the project alternative and the project is approved by the state and federal lead agencies. When a project is adopted, EBMUD will be required to adopt a mitigation monitoring and reporting program under CEQA. The program will ensure implementation of the mitigation measures.

F3-9, Wayne S. White, U.S. Fish and Wildlife Service
EBMUD's existing water service contract with Reclamation indicates that water deliveries must occur at the existing Folsom South Canal turnout facility near Grant Line Road. Taking delivery of water at an intake facility on the lower American River (Alternative 3) or at the end of the Folsom South Canal (Alternative 2, Alignments 2 and 3) would require amendment of the existing water service contract. Implementation of the CVPIA will also require renewals of all existing contracts. The terms of the proposed amendatory contract are consistent with anticipated terms under CVPIA implementation.

F3-10, Wayne S. White, U.S. Fish and Wildlife Service
As described in Chapter 1 of the 1997 Draft EIR/EIS, "Purpose of and Need for the Project," the purpose of the project is to reduce existing and future customer deficiencies to manageable levels

during drought conditions and to provide an alternative water supply in case of planned or unplanned outages of EBMUD's Mokelumne River facilities. As described in Chapter 2 of the 1997 Draft EIR/EIS, "Project Objectives and Alternatives under Consideration," an objective of the project is to make use of EBMUD's water service contract with Reclamation for the delivery of American River water. The 1997 Draft EIR/EIS did not assume that 112,500 acre-feet (AF) of water would be delivered to EBMUD in all other years. Annual deliveries estimated over the 70-year hydrologic period under Alternatives 2 and 3 are shown in Figures 3-2 and 3-3, respectively, of the 1997 Draft EIR/EIS. Figure 3-3 includes the combined deliveries to EBMUD, County of Sacramento, and the City of Sacramento.

F3-11, Wayne S. White, U.S. Fish and Wildlife Service
See "San Joaquin County Conjunctive Storage" major issue response in Chapter 3 of this Final EIR/EIS.

F3-12, Wayne S. White, U.S. Fish and Wildlife Service
See response to Comment F3-3 above.

F3-13, Wayne S. White, U.S. Fish and Wildlife Service
The conversion factors are provided in the "Key Terms" fold-out section inside the back cover of the 1997 Draft EIR/EIS.

F3-14, Wayne S. White, U.S. Fish and Wildlife Service
The supplemental Mokelumne River flows indicated in the comment are not correct. Chapter 3 of the 1997 Draft EIR/EIS, "Hydrology, Water Supply, and Power," includes a discussion of the settlement agreement between EBMUD, DFG, and USFWS for management of the lower Mokelumne River. The agreement provides for annual total releases to the Mokelumne River from Camanche Reservoir that range from 22,500 AF in critically dry years up to 129,000 AF in wet years. The agreement also provides for up to an additional 20,000 AF for instream use during a dry period if alternative water sources to the Mokelumne River supply are developed by EBMUD. As shown in Table 3-1 of the 1997 Draft EIR/EIS, the provisions of the settlement agreement were incorporated into the hydrologic modeling of the No-Action Alternative and Alternatives 2 and 3.

F3-15, Wayne S. White, U.S. Fish and Wildlife Service
See "Alternatives Considered" and "Delta and Sacramento River Alternatives" major issue responses in Chapter 3 of this document.

As part of the WSMP planning process, EBMUD evaluated hundreds of potential alternatives for meeting EBMUD water supply needs. The Updated WSMP planning process is thoroughly described on pages 1-5 through 1-10 in the 1997 Draft EIR/EIS. During this process, EBMUD evaluated the potential for obtaining local yield, implementing demand management, and modifying terminal storage reservoir operations. As a result of the Updated WSMP, EBMUD is implementing significant demand management programs (pages 1-5 through 1-10 of the 1997 Draft EIR/EIS). EBMUD also determined that there is no viable project for increasing local yield, and EBMUD has adopted a policy regarding reserving portions of its terminal storage capacity for emergency supply purposes.

The objectives of the proposed project are described on page 2-1 of the 1997 Draft EIR/EIS. The primary project purpose is to make use of EBMUD's existing water supply contract with Reclamation to achieve a number of objectives. See response to "Alternatives Considered" major issue in Chapter 3 of this document.

F3-16, Wayne S. White, U.S. Fish and Wildlife Service
Chapter 3 of the 1997 Draft EIR/EIS, "Hydrology, Water Supply, and Power," and Appendix C, "Results of PROSIM and EBMUDSIM Modeling," provide information on the amount of water that would be delivered to EBMUD under Alternatives 2 and 3. Under Alternative 2, the average annual delivery to EBMUD is 29,000 AF. The maximum amount delivered to EBMUD during the 70-year hydrologic simulation is 105,000 AF. The capacity of the Mokelumne Aqueducts is 200 MGD without

pumping and 325 MGD with pumping. Deliveries to EBMUD under Alternatives 2 and 3 are limited to no more than the 150,000 AF annual contract limit. The proposed amendatory contract would not increase the contract limit.

F3-17, Wayne S. White, U.S. Fish and Wildlife Service
Under the planned outage scenario for Alternative 3, EBMUD would utilize the 155 cfs capacity of the pipeline between the lower American River intake facility and Fairbairn Water Treatment Plant (WTP)and the 350 cfs capacity of pipelines from the Fairbairn WTP to the Folsom South Canal and the Folsom South Canal to Mokelumne Aqueduct. The additional 195 cfs would be delivered from the Fairbairn intake facility.

F3-18, Wayne S. White, U.S. Fish and Wildlife Service
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, "Hydrology, Water Supply, and Power," it was assumed that, under Alternative 3, deliveries to EBMUD would not be constrained by the river flows stipulated in the Hodge Decision. Alternative 3 reflects a mutually acceptable project selected by EBMUD, the City of Sacramento, and the County of Sacramento, who agree that Alternative 3 meets the intent of the Hodge Decision. EBMUD, the City of Sacramento, and the County of Sacramento intend to confirm the assumption that Alternative 3 is consistent with the Hodge Decision prior to project implementation, should Alternative 3 be the selected project.

As described above, Reclamation has not sought a legal opinion regarding the applicability of the Hodge Decision to a new intake location in the lower American River because Reclamation is not a party to the decision. Any Department of Interior agency may seek an opinion from the Office of the Solicitor, including the USFWS. However, there is no requirement in law that mandates such an opinion be prepared or included in an EIR/EIS. Should Alternative 3 be adopted, EBMUD and Sacramento County would seek such a determination from the Alameda County Superior Court. See also responses to Comments F3-15 and F3-16 above.

F3-19, Wayne S. White, U.S. Fish and Wildlife Service
EBMUD cannot predict when the planned or unplanned outage will occur. As indicated in Chapter 2 of the 1997 Draft EIR/EIS, "Project Objectives and Alternatives under Consideration," the planned outage would total no more than 12 months over a 20-year period with no single event extending longer than six months. The planned outage scenario would be scheduled during a wet year when flows in the lower American River frequently exceed Hodge Decision criteria.

F3-20, Wayne S. White, U.S. Fish and Wildlife Service
See response to Comment F3-19.

F3-21, Wayne S. White, U.S. Fish and Wildlife Service
The water demand from the lower American River shown in Table 3-1 of the 1997 Draft EIR/EIS reflects demands under existing conditions (1995 conditions) and the No-Action Alternative (2030 conditions). Demands under the No-Action Alternative do not assume that deliveries from the lower American river are constrained by existing facilities. This approach is similar to the modeling approach used by Reclamation for the EIS prepared for the Central Valley Project Improvement Act (CVPIA). The demand information shown in Table 3-3 of the 1997 Draft EIR/EIS was closely coordinated with the Water Forum to the extent the Water Forum was willing to share information. EBMUD and Reclamation used the best available information when the 1997 Draft EIR/EIS was prepared. With respect to the relationship of PROSIM modeling on the environmental analysis contained in the 1997 Draft EIR/EIS, see response to "PROSIM Modeling" major issue response in Chapter 3 of this document.

F3-22, Wayne S. White, U.S. Fish and Wildlife Service
See response to Comment F3-21.

F3-23, Wayne S. White, U.S. Fish and Wildlife Service
See response to Comment F3-21.

F3-24, Wayne S. White, U.S. Fish and Wildlife Service
PROSIM has been used to simulate changes in hydrologic conditions in the CVP systems for other environmental evaluations of the lower American River, including Reclamation's CVPIA Programmatic EIS, Reclamation's and the County of Sacramento's CVP Water Supply Contracts Under Public Law 101-514 EIS/EIR, and the U.S. Army Corps of Engineers' special studies on the reoperation of Folsom Reservoir. As discussed in the 1997 Draft EIR/EIS in Chapter 3, "Hydrology, Water Supply, and Power," Chapter 4, "Water Quality," and Chapter 5, "Fisheries," changes in Delta exports, water quality, and X-2 would be very small under Alternatives 2 and 3. See Figure 3-18, 4-4, and 4-5, and Table 5-31 in the 1997 Draft EIR/EIS.

F3-25, Wayne S. White, U.S. Fish and Wildlife Service
The analysis provided in Chapters 7 and 8 of the 1997 Draft EIR/EIS on vegetation, wetlands and wildlife adequately follows NEPA requirements to describe the affected environment and the "net effects." Section 1502.16 of the Council of Environmental Quality portion of the Code of Federal Regulations, Title 40, states the following:

> *The discussion will include the environmental impacts of the alternatives. It shall include discussions of: (a) Direct effects and their significance, (b) Indirect effects and their significance.*

The 1997 Draft EIR/EIS describes the affected environment with regard to specific resources and provides analysis of the "effects and their significance" anticipated from the proposed project on those resources. Impacts are clearly noted in the document and their significance appraised. Mitigation is also clearly noted in the text as well as in Tables S-1, S-2, and S-3. The document includes all foreseeable impacts. (1997 Draft EIR/EIS pages 7-5 through 7-19 and 8-4 through 8-16.) No foreseeable impacts were omitted due to lack of significance.

F3-26, Wayne S. White, U.S. Fish and Wildlife Service
Table 8-1 in Chapter 8 of the 1997 Draft EIR/EIS includes the giant garter snake as a threatened species within the San Joaquin Valley. However, Alternatives 2 and 3 are predominantly in habitat not suitable for the species. The pipeline alignment from the American River to the end of Kiefer Boulevard would be located in city streets or county roads. The pipeline alignment between the Folsom South Canal and the Mokelumne Aqueducts is located well east of Highway 99 and outside the garter snake's range. No recorded sightings of the species were identified within the areas affected by Alternatives 2 and 3. These areas appear to be outside the giant garter snake's range, there is no suitable habitat that would be affected by the alternatives, and therefore no effects are anticipated. However, this issue will be revisited during the Section 7 consultation process.

F3-27, Wayne S. White, U.S. Fish and Wildlife Service
The analysis of cumulative impacts in Chapter 18 of the 1997 Draft EIR/EIS includes a reasonable estimate of all the major existing and future American River water users and is consistent to the maximum extent possible with Water Forum efforts. No new effects would be expected to be predicted from any new Water Forum information. The incremental impacts of Alternatives 2 and 3 would be expected to remain essentially the same. See response to Comment F3-24. See also the "PROSIM Modeling" major issue response in Chapter 3 of this document.

F3-28, Wayne S. White, U.S. Fish and Wildlife Service
The text on page 18-3 of the 1997 Draft EIR/EIS does not imply that actions of the CVPIA and CALFED will mitigate impacts of diverting water to EBMUD. On the contrary, the analysis indicates that CVPIA and CALFED actions may impact the amount of water EBMUD has access to at any given time.

F3-29, Wayne S. White, U.S. Fish and Wildlife Service
The text on page 18-8 of the 1997 Draft EIR/EIS states that the additional water will not cause "additional growth-inducing

effects beyond what has already been projected for the Updated WSMP." The growth-inducing effects of the additional water have already been considered and analyzed within the Updated WSMP EIR (See Chapter 13 of the Updated WSMP EIR). That analysis is incorporated by reference.

F3-30, Wayne S. White, U.S. Fish and Wildlife Service
Community development is generally managed through the local planning agencies and general plans, as stated on page 18-9 in the 1997 Draft EIR/EIS. Mitigation actions for community development are beyond the control of EBMUD and Reclamation and are established on a project-specific basis by city and county jurisdictions. The "Alternative 1: No Action" discussions within the Environmental Consequences sections of each chapter of the 1997 Draft EIR/EIS describe service area growth issues in detail. Pages 7-9 through 7-12 in particular provide detailed information on growth analysis within the service area. The Updated WSMP EIR contains additional detailed analysis of growth effects and EBMUD planning strategies. See also response to Comment F3-29.

F3-31, Wayne S. White, U.S. Fish and Wildlife Service
The 1997 Draft EIR/EIS is not intended to serve as a Biological Assessment for the purposes of formal consultation pursuant to Section 7 of the Federal Endangered Species Act. A separate Biological Assessment was submitted to the USFWS to comply with Section 7 requirements.

F3-32, Wayne S. White, U.S. Fish and Wildlife Service
The Biological Assessment for terrestrial species submitted to USFWS includes, within an appendix, a discussion of potential effects on threatened and endangered species within the EBMUD service area that may occur regardless of whether Alternative 2 or 3 is implemented. However, the status of these species would not be directly impacted by the alternatives because water supplies are not a limiting factor to growth within the EBMUD Ultimate Service Boundary. The Updated WSMP EIR (Chapter 13) contains analysis of potential growth-related impacts on sensitive species within the service area.

F3-33, Wayne S. White, U.S. Fish and Wildlife Service
The 1997 Draft EIR/EIS includes an analysis of effects on fisheries resources as a result of changes in Delta inflow and outflow and location of X2 (see pages 5-21 and Tables 5-31 and 5-32). The hydrologic analysis assessed changes in Delta inflow, outflow, and changes in operation of other CVP reservoirs (see Tables 5-7, 5-8, 5-31, 5-32, 5-33, and 5-34). The analysis concluded that changes in these factors attributable to Alternatives 2 and 3 would be very small (pages 5-9 through 5-22 and Tables 5-7 through 5-34). See also response to Comment F3-3. Therefore, additional modeling and analysis of cumulative impacts on the biological resources mentioned in the comment are unnecessary at this time. Reclamation is committed to meeting all of its obligations under existing and future biological opinions and water rights decisions, which may require the preparation of the analysis requested. See also the "PROSIM Modeling" major issue response in Chapter 3 of this Final EIR/EIS.

F3-34, Wayne S. White, U.S. Fish and Wildlife Service
The Fish and Wildlife Coordination Act requires Reclamation to consult with USFWS when its activities include water development. The Act provides for USFWS to provide mitigation suggestions but does not legally require the lead agency to implement the recommended mitigation. Alternatives 2 and 3 have been designed to avoid impacts to the maximum extent possible. Chapter 5, "Fisheries," and Chapter 8, "Wildlife," of the 1997Draft EIR/EIS also identify potential mitigation measures for unavoidable impacts.